CRM APPLICATION FOR JEWEL MANAGEMENT

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1. INTRODUCTION

1.1 Project Overview

The jewellery industry is a cornerstone of the global economy, driven by consumer demand for luxury goods, personal adornment, and significant life event purchases. The market is highly competitive and dynamic, requiring businesses to manage not only valuable physical inventory but also intricate customer relationships. Traditional methods, relying on manual ledgers and rudimentary spreadsheets, often lead to significant operational bottlenecks, including data entry errors, inefficient inventory tracking, and a fragmented view of customer interactions. This results in lost sales opportunities, reduced customer satisfaction, and an inability to scale operations effectively.

The CRM Application for Jewel Management is a robust and scalable Salesforce-based solution designed to address these challenges head-on. By leveraging the power of Salesforce's cloud platform, this application provides a unified system to manage the entire customer lifecycle, from initial inquiry to after-sales service. It integrates core business functions such as customer relationship management, sales order processing, inventory control, and post-purchase support, all within a single, streamlined interface. The system employs key Salesforce features like custom objects, automated workflows (Flows), Apex triggers, and real-time dashboards to transform manual processes into efficient, data-driven operations. This project aims to empower jewellers with the tools necessary to enhance their operational efficiency, foster stronger customer loyalty, and gain a competitive edge in the market.



Flowchart



The flowchart for the CRM Application for Jewel Management provides a high-level overview of the system's architecture and its primary functions. It is designed to be a simple, illustrative diagram that helps stakeholders quickly understand what the application does.

At its core, the JEWEL MANAGEMENT CRM acts as the central hub for all business operations. It is a single, unified platform where data is stored, processes are automated, and key activities are managed.

Each of the five surrounding boxes represents a major module of the CRM:

- 1. **CUSTOMER MANAGEMENT:** This branch shows that the CRM is the central point for managing all customer data, from contact information to purchase history and preferences.
- 2. **SALES & BILLING:** This illustrates the CRM's role in streamlining the sales process, from processing new orders to automatically generating invoices and managing payments.
- 3. **INVENTORY TRACKING:** This highlights how the system provides real-time visibility into the stock of jewels, helping to prevent shortages and manage valuable assets efficiently.
- 4. **REPAIR REQUESTS:** This demonstrates the CRM's capability to track and manage all after-sales service and repair requests, ensuring a smooth and transparent process for customers.
- 5. **LOYALTY PROGRAMS:** This shows the system's function in automatically managing loyalty points and membership tiers, which is crucial for retaining customers and encouraging repeat business.

1.2 Purpose

The primary objective of this project is to provide a comprehensive and integrated solution for jewel businesses to manage their operations efficiently. Specifically, the system is designed to achieve the following:

- Centralize customer information: Create a single source of truth for all customer data, including contact details, purchase history, preferences, and loyalty status, enabling personalized service.
- Automate business processes: Eliminate manual data entry and human error by automating
 tasks such as invoice generation, payment reminders, and status updates through Salesforce
 Flows and email alerts.
- Enhance inventory control: Provide real-time visibility into jewel stock levels, track items by category (e.g., gold, silver, diamonds), and manage stock movements to prevent shortages or overstocking.
- Streamline after-sales service: Efficiently track and manage repair and service requests, ensuring timely resolution and clear communication with customers.
- **Boost customer loyalty:** Implement a structured loyalty program with membership tiers and points, encouraging repeat business and rewarding high-value customers.
- Enable data-driven decision-making: Offer managers real-time dashboards and reports on sales performance, inventory turnover, and repair service metrics, facilitating informed strategic decisions.



2. LITERATURE REVIEW

2.1 Existing System

The current landscape of jewel management is dominated by fragmented and outdated systems. Many small to medium-sized jewel businesses still rely on analogy methods such as handwritten registers and simple spreadsheets (e.g., Microsoft Excel) to record sales, track inventory, and manage customer contacts. While these tools are accessible and require minimal initial investment, they are highly inefficient and prone to error. Data duplication is common, and retrieving specific customer or sales information can be a time-consuming and cumbersome process. The lack of a centralized database makes it difficult to generate meaningful reports or analyse sales trends, severely limiting the business's ability to grow and adapt.



2.2 Limitations of Existing System

The limitations of manual and spreadsheet-based systems are manifold and significantly impact business performance:

- **Time-consuming and prone to human error:** Manual data entry is a slow process and is susceptible to typos and inconsistencies, leading to inaccurate records.
- Lack of centralized customer data: Customer information is siloed across multiple files or notebooks, making it impossible to get a 360-degree view of the customer relationship.
- No automation for billing or reminders: Invoices and payment reminders must be created and sent manually, often resulting in delayed payments and increased administrative overhead.
- **Poor tracking of repairs and loyalty programs:** Tracking a jewel through its repair journey is a manual, paper-based process, and loyalty points or tiers are difficult to manage without an automated system.
- **Inadequate reporting and analytics:** Generating reports on sales, inventory, or customer behavior is a labor-intensive process, and the data is often outdated by the time it is compiled.

2.3 Proposed Solution

To overcome these limitations, a modern, cloud-based Customer Relationship Management (CRM) system is proposed. The **Salesforce CRM platform** is the ideal solution due to its proven scalability, security, and extensive customization capabilities. Unlike generic software, Salesforce allows for the creation of custom objects and fields that are specific to the needs of the jewelry industry.

The proposed Salesforce CRM offers:

- Cloud-based access anywhere, anytime: Managers and sales representatives can access critical business data from any device, ensuring business continuity and flexibility.
- Customizable objects: Create bespoke objects (e.g., Customer, Product, Order, Invoice, Repair, Loyalty) to precisely model the business's data and processes.
- Automated workflows: Use native Salesforce automation tools like Flows, Validation Rules, and Apex Triggers to streamline operations and ensure data integrity.
- Real-time dashboards for managers: Provide visual, real-time insights into key
 performance indicators, such as sales trends, inventory status, and repair volumes,
 enabling agile decision-making.

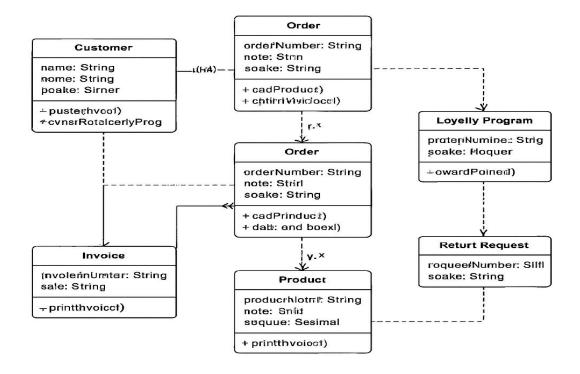
• Enhanced customer satisfaction: The centralized customer data and automated loyalty programs will enable a personalized customer experience, fostering stronger relationships and repeat business.



3. PROPOSED SYSTEM

The proposed Salesforce-based CRM application is a modular system built around the key functions of a jewel retail business. The system is designed to be intuitive for users while providing powerful backend automation. The main modules include:

- Customer Management: A comprehensive module to store customer details, track their purchase history, and manage their loyalty status.
- **Product Management:** A complete catalog of jewels and other products, including detailed information such as material (gold, silver, platinum), gemstone type, weight, price, and real-time stock availability.
- Order & Invoice Management: A seamless process for creating new orders, autogenerating invoices upon confirmation, and sending automated payment reminders to customers.
- Repair Request Tracking: A dedicated module to manage incoming repair and service requests, track their status (e.g., "Pending," "In Progress," "Completed"), and ensure timely customer communication.
- Loyalty Program: An automated system to assign loyalty points to customers based on their purchases and upgrade their membership tiers (e.g., "Silver," "Gold," "Diamond") based on predefined criteria.
- **Approval Process:** A critical business process for managing high-value transactions, where a manager's approval is required before an order can be finalized.



4. SYSTEM DESIGN

4.1 Use Case Diagram

The Use Case Diagram visually represents the interactions between different users (actors) and the system. The main actors are the **Customer**, **Sales Representative**, and **Manager**.

- Customer: Can place orders, request repairs, and check their loyalty points.
- Sales Representative: Has a more comprehensive role, managing customer data, processing new orders, issuing invoices, and creating repair requests.
- **Manager:** Possesses administrative privileges, including approving high-value orders and viewing reports and dashboards.

Manage Customer Data Manage Orders Manage Invoices Manage Repairs Approve High-Value Orders

Use Case Diagram for Jewelry Salesforce CRM

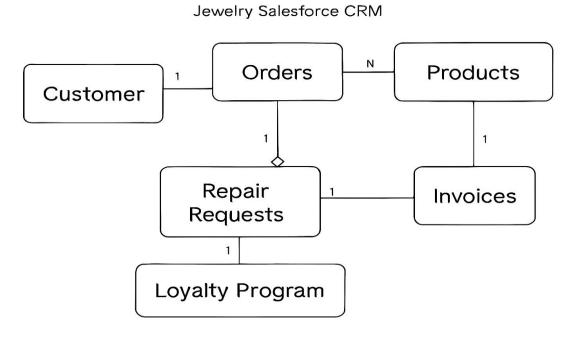
4.2 Entity Relationship Diagram (ERD)

The Entity Relationship Diagram (ERD) is crucial for defining the data model of the application. It illustrates how the custom objects in Salesforce relate to one another. The core relationships are as follows:

- Customer ↔ Orders: A customer can have multiple orders, and each order is associated with a single customer.
- Orders ↔ Products: An order can contain multiple products, and a product can be part of many orders. This is a many-to-many relationship often handled with a junction object (e.g., OrderProduct_c).
- Orders ↔ Invoices: An invoice is directly linked to an order.

- Customer ↔ Repair Requests: A customer can submit multiple repair requests, and each request is for a specific customer.
- Customer

 Loyalty Program: A customer record is linked to their loyalty points and tier status.

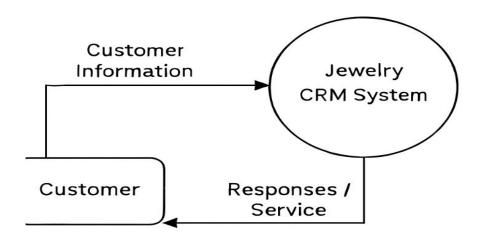


4.3 Data Flow Diagram (DFD)

The Data Flow Diagram (DFD) provides a high-level view of how data moves through the system.

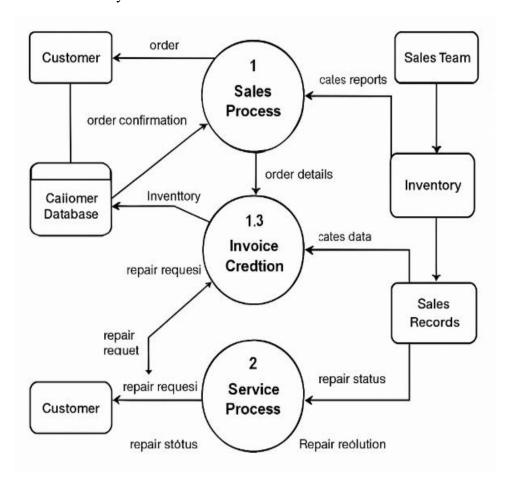
• Level 0 (Context Diagram): The customer interacts with the CRM system as a single process.

Data Flow Diagram Level 0 (Context Diagram)



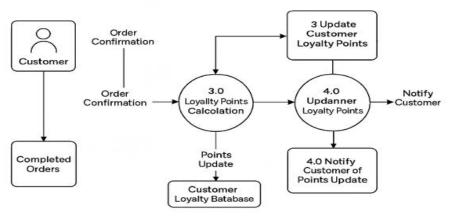
• Level 1 (Main Processes):

- Sales Process: A customer's order is processed, leading to the creation of an invoice.
- Service Process: A customer submits a repair request, which is handled and resolved by the service team.



• Level 2 (Detailed Processes):

o **Loyalty Process:** After an order is completed, a subprocess is triggered to calculate and allocate loyalty points, which then update the customer's record.

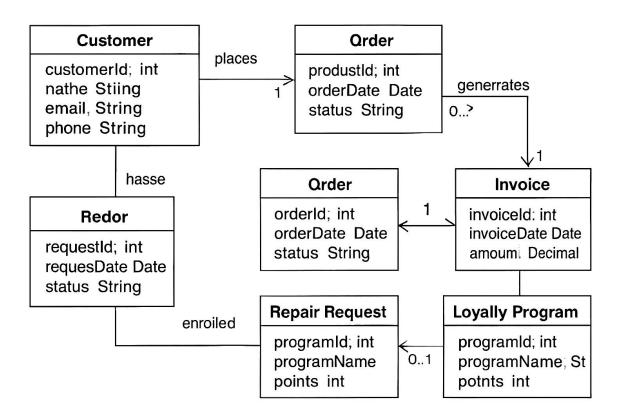


Jewelry CRM Loyalty Process. Level Loyalty Process

4.4 UML Diagrams

UML (Unified Modeling Language) diagrams provide a more detailed, object-oriented view of the system.

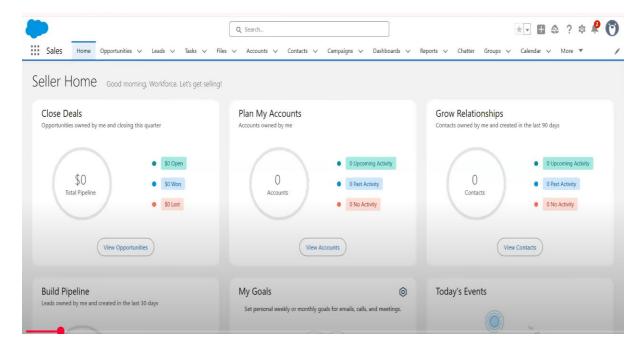
- Class Diagram: Shows the static structure of the system, including classes (custom objects like Customer c, Product c, Order c, etc.), their attributes (fields), and their relationships.
- **Sequence Diagram:** Illustrates the interactions between objects in a time-ordered sequence. For example, a sequence diagram could show the flow when a customer places an order: Customer object interacts with Order object, which then calls the Invoice object to be generated.
- **Activity Diagram:** Models the flow of control and activities within a process, such as the steps involved in handling a repair request from submission to completion.



5. IMPLEMENTATION

• Step 1: Salesforce Developer Account

The first step in development is to create a free Salesforce Developer account. This environment provides all the tools and resources needed to build and test the application without any cost.

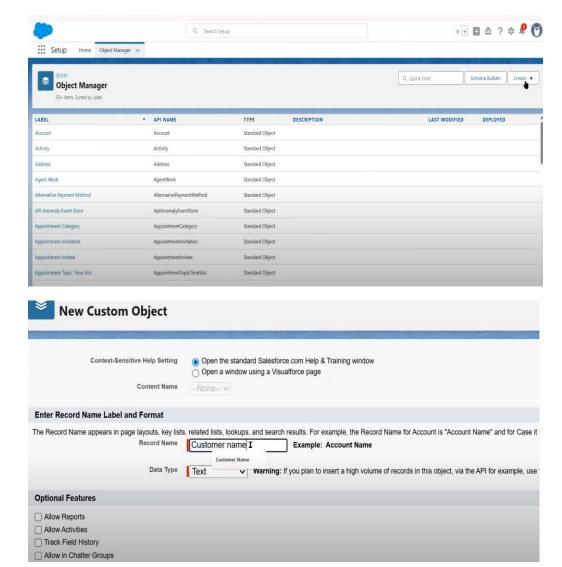


Sign up at Salesforce Developer Signup.

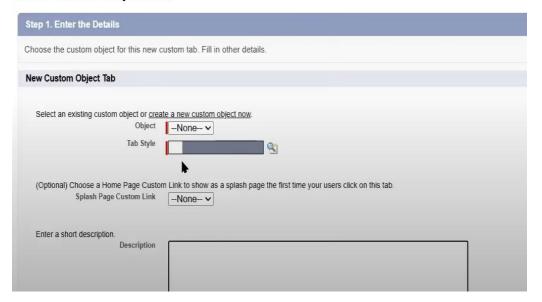
• Step 2: Object Creation

Custom objects are the foundation of the application. The following objects were created with specific fields to capture jewel business data:

- 1. **Customer:** Fields for Name, Email, Phone, and Loyalty ID.
- 2. **Product:** Fields for Name, Category (e.g., Ring, Necklace), Weight, Price, and Stock.
- 3. Order: Fields for Order Date, Customer (Lookup), Product (Lookup), and Quantity.
- 4. **Invoice:** Fields for Invoice Number, Order Reference (Lookup), Amount, and Status (e.g., "Pending," "Paid").
- 5. **Repair Request:** Fields for Repair ID, Customer (Lookup), Item, and Status (e.g., "Received," "Repairing," "Completed").
- 6. Loyalty Program: Fields for Customer (Lookup), Points, and Tier.

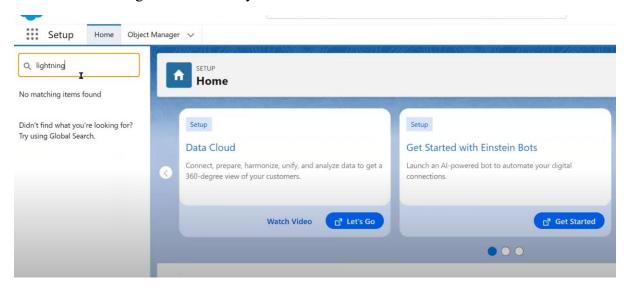


New Custom Object Tab

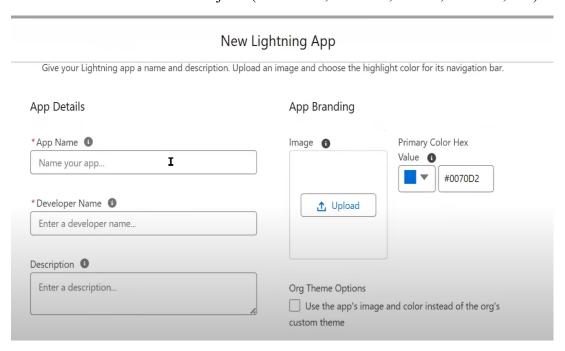


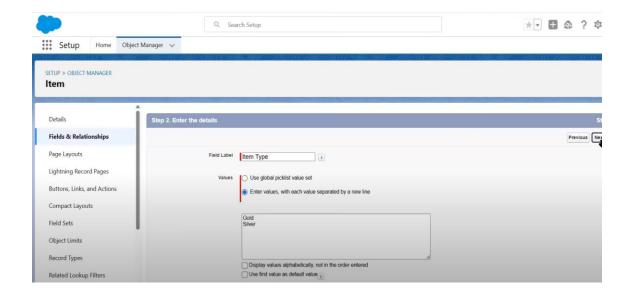
• Step 3: Configurations

After creating the objects, relationships were established to connect the data, and the user interface was configured for usability.

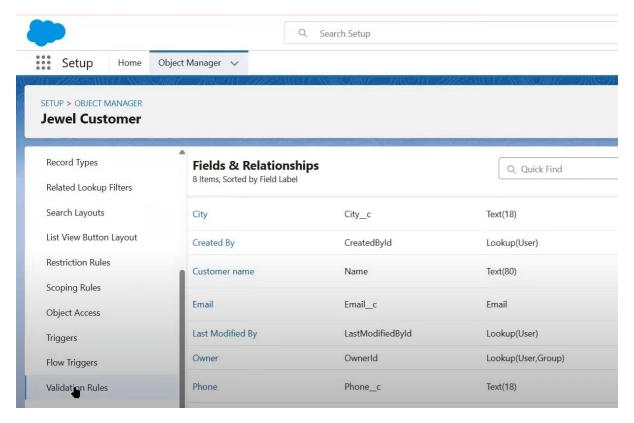


- 1. **Relationships:** Master-detail and lookup relationships were configured between Orders, Customers, and Products.
- 2. **Lightning App:** A custom Lightning App named "Jewel Management" was created with tabs for each of the core objects (Customers, Products, Orders, Invoices, etc.).





3. **Validation Rules:** Rules were implemented to ensure data quality, such as validating email formats, phone numbers, and preventing sales if stock is unavailable.

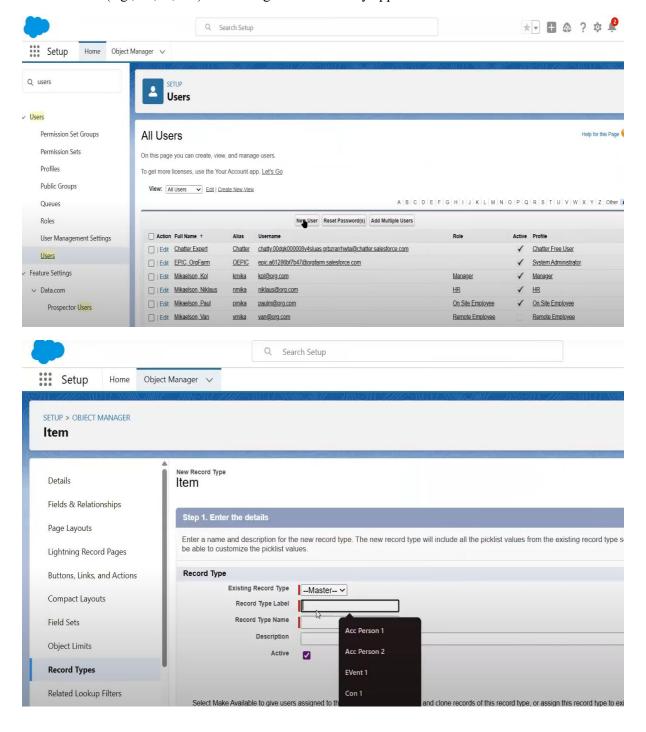


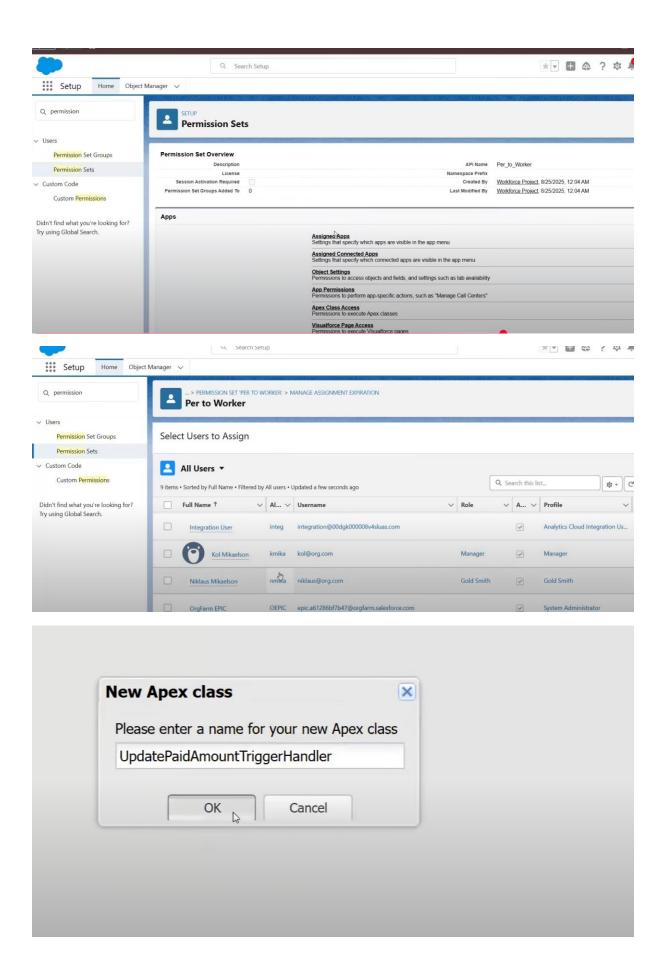
• Step 4: Automation

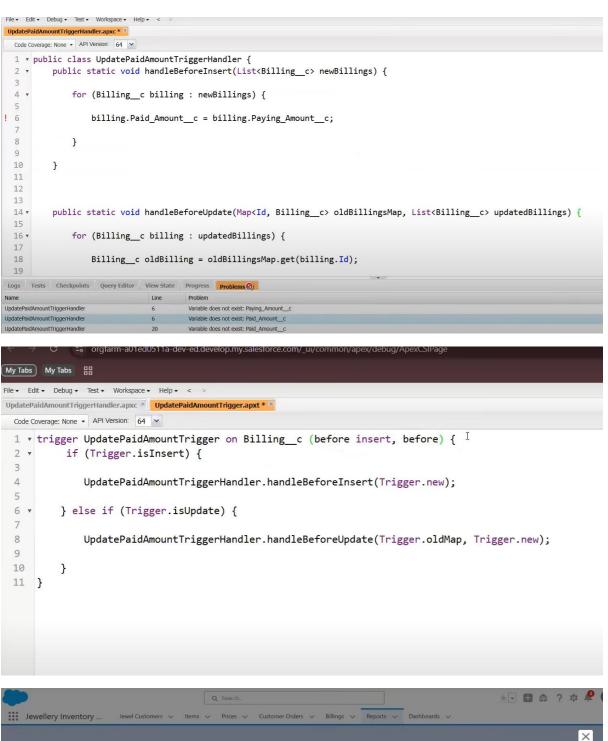
Automating business logic is where Salesforce truly adds value. The following automations were implemented:

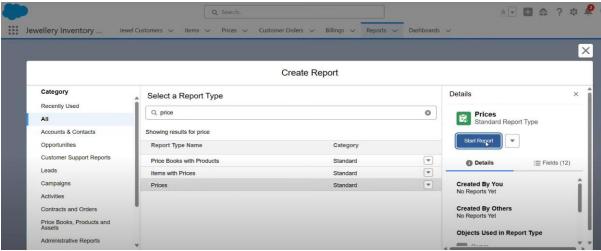
1. **Flows:** A Record-Triggered Flow was built to automatically generate an invoice record once an order's status is confirmed.

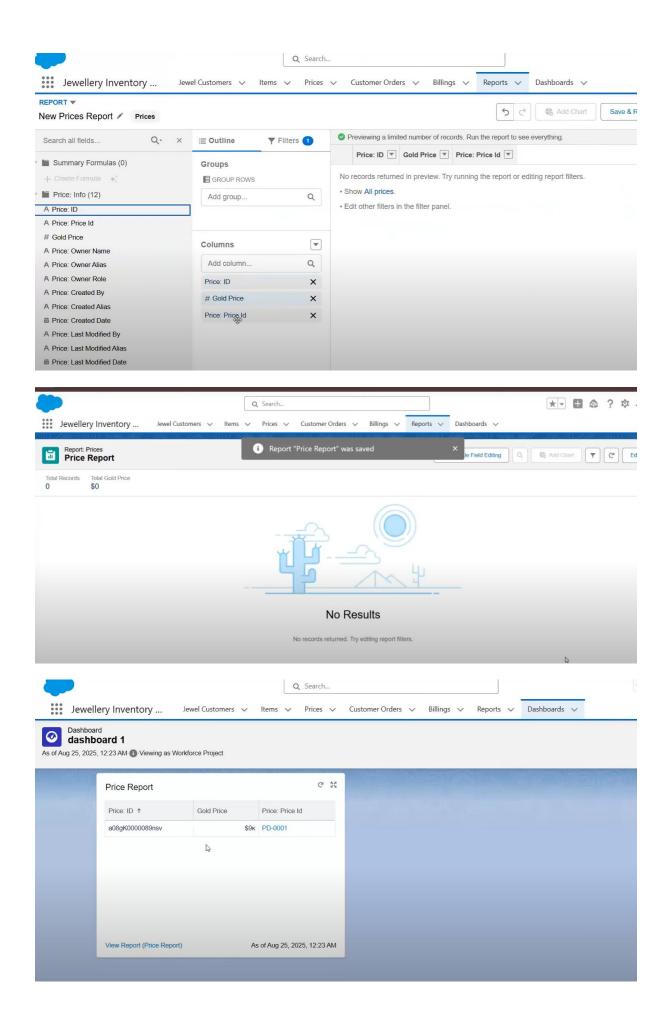
- 2. **Triggers:** An Apex Trigger (LoyaltyPointsTrigger) was developed to automatically add loyalty points to a customer's record after a successful purchase.
- 3. **Email Templates:** A set of email templates was created for purchase confirmations, payment reminders, and loyalty program updates.
- 4. **Scheduler:** An Apex Scheduled Class (PaymentReminderScheduler) was configured to run monthly, sending reminders for pending payments.
- 5. **Approval Process:** A multi-step approval process was set up to route orders above a certain value (e.g., ₹5,00,000) to a manager for mandatory approval.

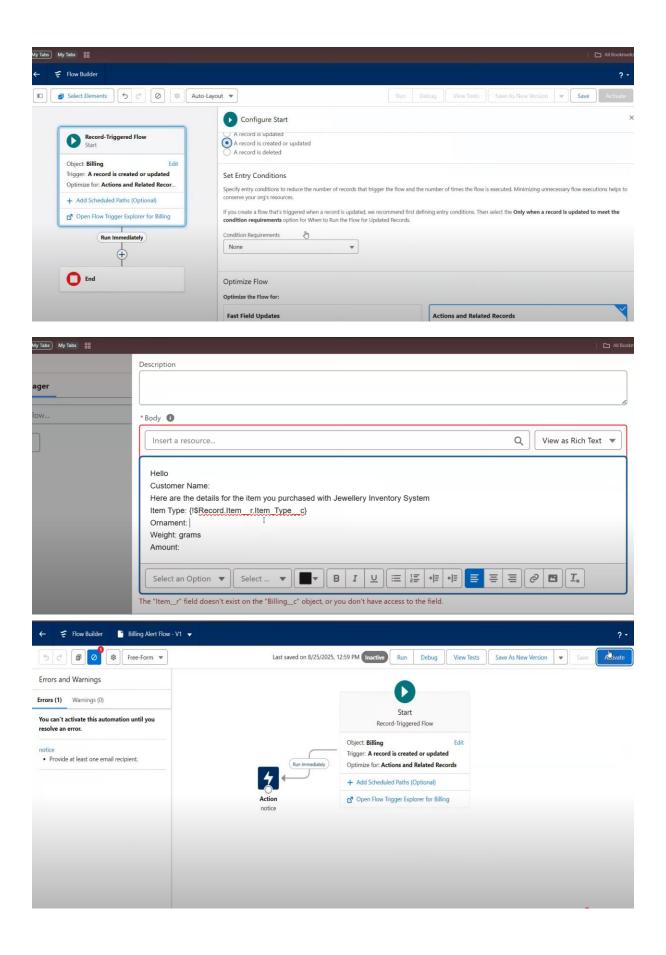












6. TESTING & RESULTS

6.1 Functional Testing

A series of tests were conducted to validate the functionality of the system:

- Validation Rules: Tested by entering invalid data to ensure rules for email format, phone numbers, and stock availability worked as expected.
- **Flows:** Tested the order-to-invoice flow to confirm that invoices were generated accurately and automatically.
- **Triggers:** Tested the loyalty points trigger by completing an order and verifying that the correct number of points was credited to the customer's account.
- **Approval Processes:** Tested by creating a high-value order and confirming that it was routed to the manager for approval and that the status updated correctly.
- **Email Alerts:** Tested the email templates and alerts by confirming that notifications were sent for purchase confirmations, reminders, and approval requests.



6.2 Results

The implementation and testing confirmed the successful creation of a robust and efficient CRM application. The results demonstrate the project's effectiveness:

- Efficient customer management: The centralized database provides a single, easy-to-access view of all customer information.
- **Reduced manual effort:** Automated invoice generation and payment reminders have significantly reduced administrative workload.
- **Increased customer engagement:** The automated loyalty program has successfully engaged repeat customers and incentivized new purchases.
- Improved business insights: Real-time dashboards provide managers with immediate insights into business performance, enabling quicker and more informed decisions.



7. ADVANTAGES & DISADVANTAGES

Advantages

- **Automation:** Reduces manual data entry and human error, increasing operational efficiency.
- Real-time data: Provides up-to-the-minute information on sales, inventory, and customer activity.
- **Customer-centric approach:** Centralized data and loyalty programs lead to better customer service and stronger relationships.
- Accessibility: Cloud-based access allows for remote management and flexibility.
- **Scalability:** The Salesforce platform can easily scale to accommodate business growth and new features.

Disadvantages

- Internet Dependency: The system requires a stable internet connection to function.
- **Initial Training:** Users will need training to adapt from manual processes to the new Salesforce system.
- **Customization Efforts:** While Salesforce is highly customizable, initial setup and specific jewel-industry configurations require a dedicated development effort.



8. CONCLUSION

The CRM Application for Jewel Management is a transformative project that effectively integrates the complex operations of a jewel business with the powerful capabilities of Salesforce CRM. By automating key processes such as customer management, sales, billing, and loyalty programs, the system not only enhances efficiency and reduces manual work but also significantly improves customer satisfaction. The project serves as a compelling demonstration of how a flexible and customizable platform like Salesforce can be tailored to meet the unique needs of a specialized industry, paving the way for future growth and innovation.

• Future Enhancements:

- 1. **AI-powered sales forecasting:** Integrating Salesforce's Einstein AI to predict sales trends and optimize inventory.
- 2. **Chatbot integration:** Implementing a chatbot on the website or within the app for instant customer support.
- 3. **Mobile application:** Developing a custom mobile app for on-the-go access for sales representatives and managers.
- 4. **E-commerce integration:** Connecting the CRM directly to an online store to synchronize customer and order data seamlessly.

Jewelry Salesforce CRM

CONCLUSION SUMMARY



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✓ Enfierood Salés Prosiom



✓ Delus Driven Inoghte

FUTURE EMEARGEMENTS



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9. APPENDIX

• Sample Apex Trigger (Loyalty Points)

```
Apex
trigger LoyaltyPointsTrigger on Order c (after insert) {
  // Logic to execute after an Order record is inserted
  for (Order c ord : Trigger.new) {
    if (ord.Status c == 'Confirmed') {
       Loyalty c loyalty = new Loyalty c(
         Customer c = ord.Customer c,
         Points c = \text{ord.TotalAmount} c / 1000
       );
       insert loyalty;
    }
  }
}
       Sample Scheduler (Payment Reminder)
Apex
global class PaymentReminderScheduler implements Schedulable {
  global void execute(SchedulableContext sc) {
    // Retrieve all pending invoices
    List<Invoice c> invoices = [SELECT Id, Customer r.Email c, DueDate c
                     FROM Invoice c WHERE Status c='Pending'];
    // Send email reminders for each pending invoice
    for (Invoice c inv : invoices) {
       Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();
       email.setToAddresses(new String[]{inv.Customer r.Email c});
       email.setSubject('Payment Reminder: Invoice Due');
```

• Sample Email Template

Subject: Thank You for Your Purchase

Body:

Dear [Customer Name],

Thank you for purchasing [Product Name]. Your invoice number is [Invoice ID].

Your loyalty points have been updated in your account.

We look forward to serving you again.